

Highlights

Sales of Fuel Oil and Kerosene in 1997

Benefiting from the robust economic growth, demand for distillate fuel increased in 1997 for the sixth consecutive year. Although the winter of 1997 was warmer than the previous year, distillate sales increased by 1.8 percent. Sales of residual fuel oil gained in some areas of the country, but declined overall by 5.7 percent. The decline in demand for residual fuel oil points to a resumption of the downward trend in sales that has, with the exception of 1996, characterized sales of this fuel for the past several years.

Distillate sales dominated the fuel oil market, accounting for 80.1 percent of the total sales. Residual fuel oil sales accounted for 18.4 percent of the total. The remaining 1.5 percent consisted of sales of kerosene.

Distillate Fuel Oil

Dominated by the transportation sector, distillate sales continued to increase in 1997 and reached an all-time high of 54.4 billion gallons. Sales increased 1.8 percent, nearly 1.0 billion gallons above the 1996 total.

The transportation sector continued to dominate distillate fuel oil sales accounting for more than half of total sales. In addition, the increase in sales of on-highway diesel accounted for more than 86 percent of the increases among those sectors where distillate sales went up. In large measure, the growth reflected continued overall economic strength of the country. Gross Domestic Product (GDP) increased by 3.8 percent in 1997.¹ The demand for durable goods increased even more, 8.1 percent.² Sales of on-highway distillate increased to keep pace with the increased flow of goods to markets and consumers.

Not all elements of the transportation sector fared so well. Sales of distillate fuel oil to railroads declined by 4.9 percent. Prolonged congestion on one major carrier and the resulting delivery problems not only contributed to the decline in distillate sales, but also impacted both the demand and prices for coal, residual fuel oil, and natural gas as well.

Weather in the form of the relatively mild winter, a wetter than normal situation in much of the farm belt,

Table HL1. Volume Distribution of Distillate and Residual Fuel Oils, 1996 and 1997

End Use	Distillate 1997		Distillate 1996		Residual 1997		Residual 1996	
	Volume (million gallons)	Percent Share	Volume (million gallons)	Percent Share	Volume (million gallons)	Percent Share	Volume (million gallons)	Percent Share
Residential	6,531	12.0	6,910	12.9	—	—	—	—
Commercial	3,315	6.1	3,604	6.8	790	6.3	928	7.0
Industrial	2,309	4.3	2,289	4.3	1,899	15.2	2,089	15.7
Oil Company	852	1.6	731	1.4	160	1.3	167	1.3
Farm	3,548	6.5	3,591	6.7	—	—	—	—
Electric	636	1.2	658	1.2	4,599	36.8	4,305	32.5
Railroad	3,278	6.0	3,447	6.5	—	—	—	—
Vessel Bunkering	2,574	4.7	2,491	4.7	5,010	40.1	5,701	43.0
On-Highway	28,614	52.6	26,958	50.5	—	—	—	—
Military	433	0.8	454	0.8	42	0.3	56	0.4
Off-Highway	2,276	4.2	2,246	4.2	—	—	—	—
Other	0	0.0	0	0.0	4	0.0	10	0.1
Total	54,366	100.0	53,379	100.0	12,504	100.0	13,256	100.0

Sources: Energy Information Administration, Form EIA-821, "Annual Fuel Oil and Kerosene Sales Report," 1996 and 1997.

¹Economic Indicators, April 1998, Washington D.C. US Government Printing Office, p.1-2.

²Economic Indicators, April 1998, Washington D.C. US Government Printing Office, p.12.

and other unusual conditions associated with the severity of the El Niño undermined much of the gain in distillate sales. Sales from the transportation sector and direct oil company markets increased by 1.9 billion gallons. However, the combined drop in sales from the residential, commercial, farm, electric utility, railroad, and military sectors amounted to nearly 1 billion gallons resulting in a net increase of just under 1 billion gallons in total distillate sales.

Distillate sales also benefited from lower prices. In particular, sales of vessel bunker fuel increased as a glut of distillate developed, principally in the Gulf Coast region. The glut developed as stock levels (already at their highest level in several years because of the mild winter) continued to build into the summer with an upsurge in summer gasoline demand of 2.4 percent compared to 1996.³ Refinery production of distillate increased in part as a function of the increased demand for gasoline. In addition, a large East Coast refinery not in operation in 1996 reopened and returned to production in 1997.⁴

Oil company direct use of distillate fuel oil increased sharply as companies increased drilling activity. Prompted by higher crude oil and natural gas prices in the closing months of 1996 and first quarter of 1997,⁵ the number of rotary rigs in operation climbed steadily through the first three-quarters of 1997, surging 21.1 percent.⁶ Other than in PAD District I, the East Coast, where direct oil company use is essentially limited to refinery processing, direct oil company demand increased throughout the U.S.

The largest drop in distillate sales occurred in the residential sector where the impact of the relatively mild winter was the strongest. The drop in sales was most pronounced in the northeast portion of PAD District I (the East Coast) and in parts of PAD District II (the Midwest) where the market for home heating oil is concentrated. Distillate sales to the residential market dropped 4.7 percent in PAD District I and 12.1 percent in PAD District II.

Sales to the commercial sector were flat or declined generally throughout the country. The overall drop in commercial sales amounted to 8.0 percent. Led by the

solid gain in the demand for durable goods, distillate sales to the industrial sector increased by 0.9 percent. The modest increase developed despite a drop in distillate demand for heating purposes. Industrial sales generally increased in the mid-section of the country from the Gulf Coast northward through the Mississippi River Valley and west to the Rocky Mountains. However, sales fell in portions of PAD District I (the East Coast) as well as in PAD District V (the West Coast).

The impact of the slump in sales to the residential and commercial markets was exacerbated by two factors external to domestic markets. The mild winter was responsible for lower demand throughout the Atlantic Basin. As a result, sales of heating oil were flat or declined and stock levels built in Europe as well as in the U.S. In addition, the economic downturn in Asia began to have a negative impact on demand, particularly during the fourth quarter of 1997, further contributing to the high levels of stocks (particularly of high sulfur distillates).

Although the number of acres planted by farmers was essentially unchanged in 1997, the number of acres harvested increased slightly from the level in 1996.⁷ Nonetheless distillate sales to the farm sector fell generally East of the Rocky Mountains. Increases occurred in the Western U.S. but were insufficient to offset declines elsewhere. Overall sales of distillate to the farm sector declined by 1.2 percent.

Wetter than normal weather in the farm belt delayed planting, and crops were ready for harvesting later than is typical. Warm and dry conditions at harvest time, enabled farmers to cut expenses by leaving crops in the ground even longer and reducing the need for crop drying typically required for such crops as corn and tobacco. As late as October, reports in trade press indicated that crop-drying requirements were only 20.0 percent of normal in some areas.⁸ Sales of propane (the principal crop-drying fuel) fell and prices plunged as demand remained weak even with the onset of winter. Propane stocks built to their highest level in several years.⁹

³Monthly Energy Review (MER), June 1998, Table 3.4, p.57.

⁴"A Contrast Between Distillate Fuel Oil Markets in Autumn 1996 and 1977," *Petroleum Marketing Monthly*, December 1977, p. xxvii.

⁵MER, June 1998, Table 9.1, p. 111.

⁶U.S. Average Rig Counts by State, Baker Hughes, 1996, 1997.

⁷Annual Crop Summary, Agricultural Statistics Board, NASS, USDA, p.23.

⁸Weekly Propane Newsletter, October 13, 1997, Arcadia, California, BPN, p. 5.

⁹MER, June 1998, Table 3.9, p.67.

Distillate sales to the electric utility sector fell by 3.3 percent. Distillate sales to the military fell for the third consecutive year. The drop of 4.8 percent reflects a continuation of changing emphasis in military operations.

Residual Fuel Oil

The downward trend in residual fuel oil sales, interrupted in 1996, resumed in 1997 with a drop of 5.7 percent. (This downward trend has resulted in a drop in sales of more than 40.0 percent since 1987.) Sales in most areas of the country and for most market segments declined. Only sales to the electric utility market increased during 1997.

Residual fuel oil sales to electric utilities increased overall along the East Coast by 5.3 percent. However, the increase was confined to the Northeast where continued outages of a number of large power plants, including several nuclear plants, resulted in a surge in residual fuel oil demand. Several older plants were refurbished prior to the onset of summer to help meet peak demand. Purchases of fuel oil by electric utilities increased as a result by some 30,000 barrels per day during the period from February through June as utilities built inventory for use in the summer.⁵

Utility demand in New England resulted in a gain of more than 470 million gallons, a 50.4 percent increase compared to the prior year. However, demand in the Mid-Atlantic region of PAD District I declined sharply in comparison to the level of 1996 while demand was essentially unchanged in the South Eastern region. As a result, the overall gain in PAD District I amounted to approximately 192 million gallons for the year.

The other exception to the general pattern of decline was the Gulf Coast region. Demand from electric utilities in the region more than doubled, increasing by nearly 140 million gallons or nearly 180.0 percent. Sales in the region increased in part as the result of hot summer weather, but in large measure as the result of

delays in deliveries of coal as the result of the congestion affecting one of the major rail carriers in the region.

Sales of residual fuel oil to the commercial, industrial, and military sectors all declined in 1997. Commercial sales fell in most regions of the country and overall dropped by 14.9 percent. Industrial sales fell in every region of the country and overall dropped by 9.1 percent. Sales were down throughout the country reflecting a slowdown in activity.

The most precipitous drop in residual fuel oil sales occurred in the vessel bunkering market in PAD District V, the West Coast. Sales plunged by 28.2 percent, more than 656 million gallons. Sales were eroded in large measure as the result of events in Asia. Low bunker prices in the Singapore market boosted sales there at the expense of the West Coast market.⁶ In addition, during the last quarter of the year, the economic slump in Asia worsened and spread to countries outside Southeast Asia, contributing to the downturn in bunker sales in PAD District V.

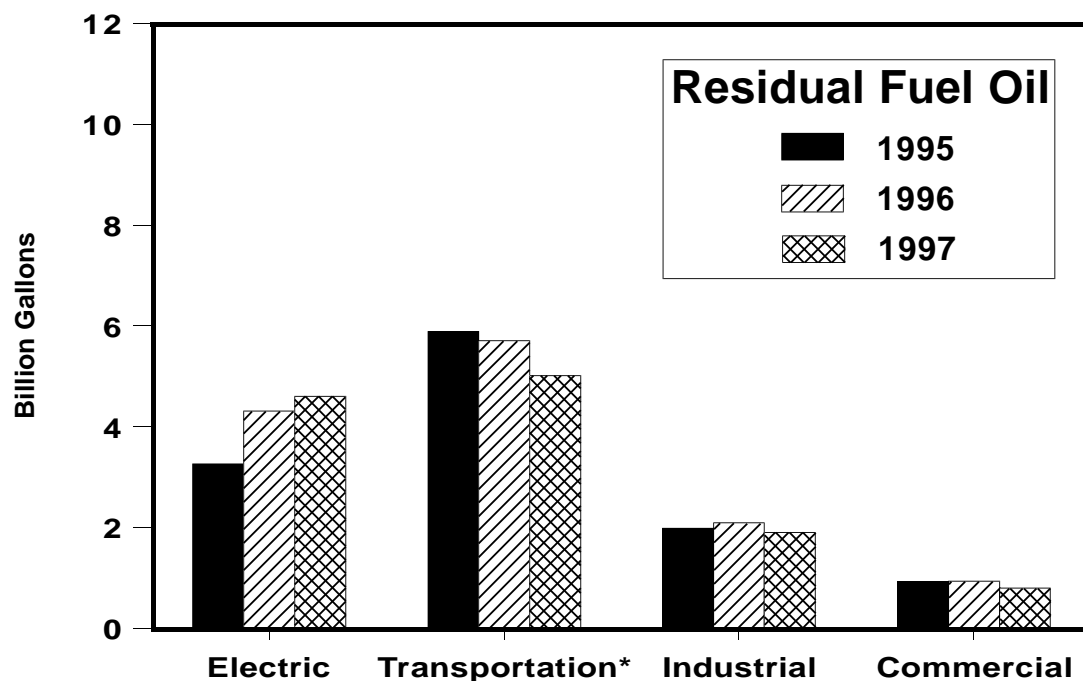
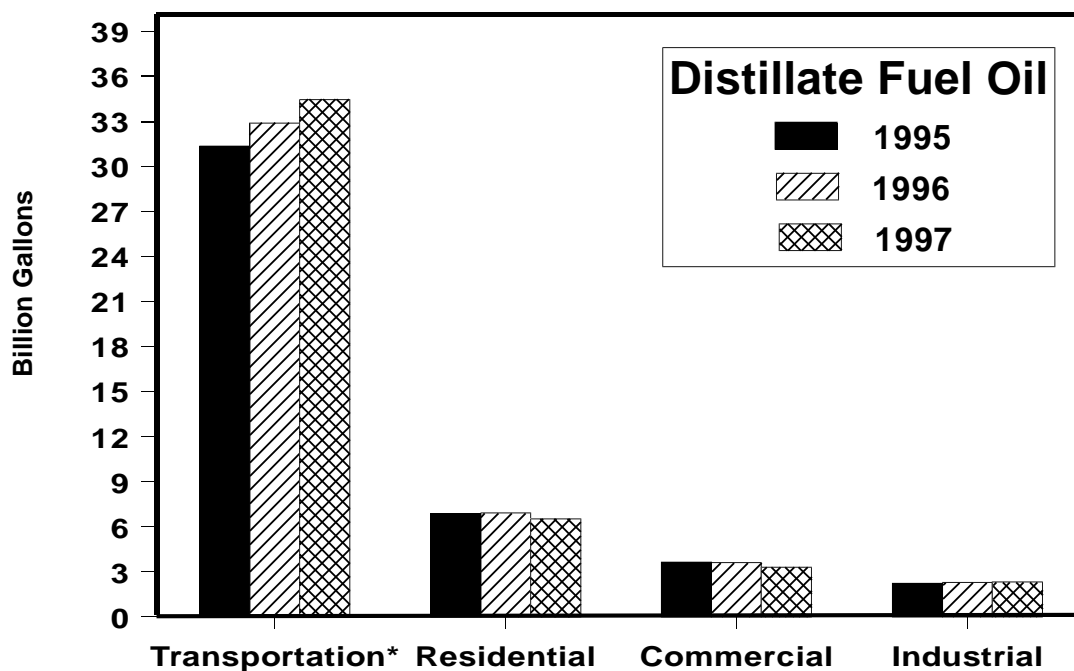
Kerosene

Sales of kerosene increased 6.4 percent to exceed one billion gallons for the first time this decade. The kerosene market continued to be dominated by sales to residential consumers, which account for approximately two thirds of all kerosene sales. Reflecting the overall strength of the economy, kerosene sales to commercial and industrial sectors also increased by 17.2 percent and 8.2 percent respectively. The increases reflect the strength of the overall economy. Kerosene sales to the agricultural sector were down. Farm sales fell generally except in PAD District III, the Gulf Coast and in PAD District IV, the Rocky Mountain region.

⁵ *Electric Power Monthly*, July-November 1997, Table 39, "Receipts and Average Cost of Petroleum Delivered to Electric Utilities."

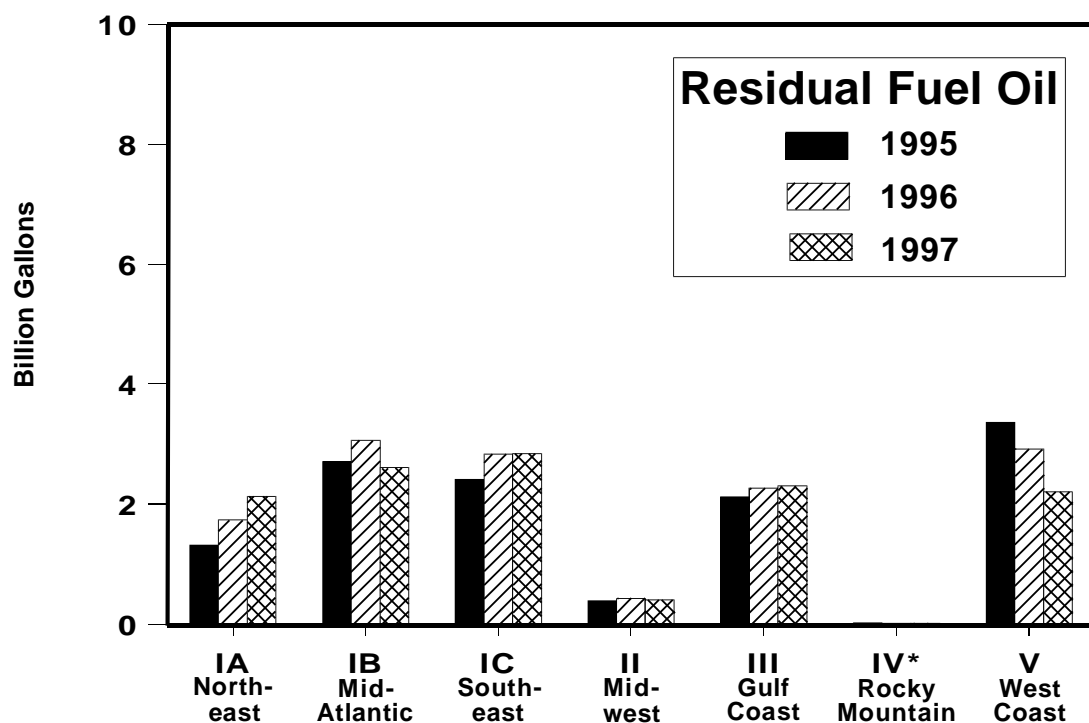
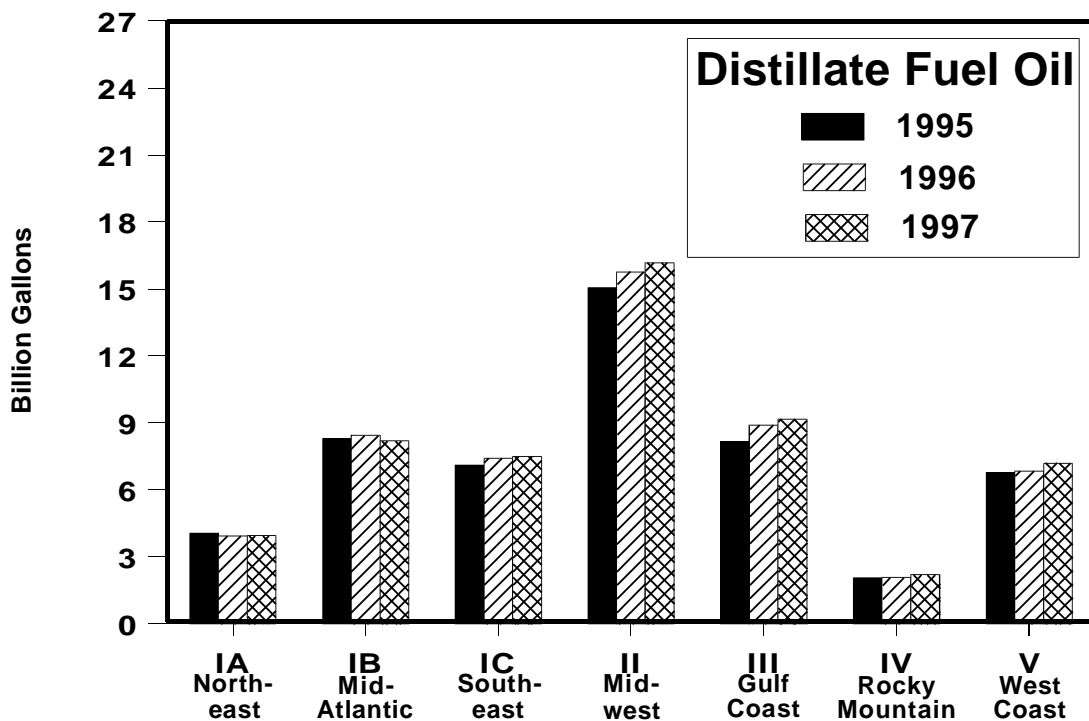
⁶ *Platt's Oilgram Price Report*, Product Price Assessments, Singapore and West Coast Pipeline.

Figure HL1. U.S. Sales of Distillate and Residual Fuel Oils by End Use, 1995-1997



*For distillate fuel oil, transportation use comprises railroad, vessel bunkering, and on-highway diesel end-use categories. For residual fuel oil, transportation use comprises the vessel bunkering end-use category.
 Sources: Energy Information Administration, Form EIA-821, "Fuel Oil and Kerosene Sales Report," 1996 and 1997.

Figure HL2. Volume Distribution of Distillate and Residual Fuel Oils by PAD District, 1995-1997



*Residual fuel oil sales in PAD District IV are too small to appear in this graph.

Sources: Energy Information Administration, Form EIA-821, "Fuel Oil and Kerosene Sales Report," 1996 and 1997.

Figure HL3. Distillate Sales for Transportation End-Use by PAD District and State, 1997

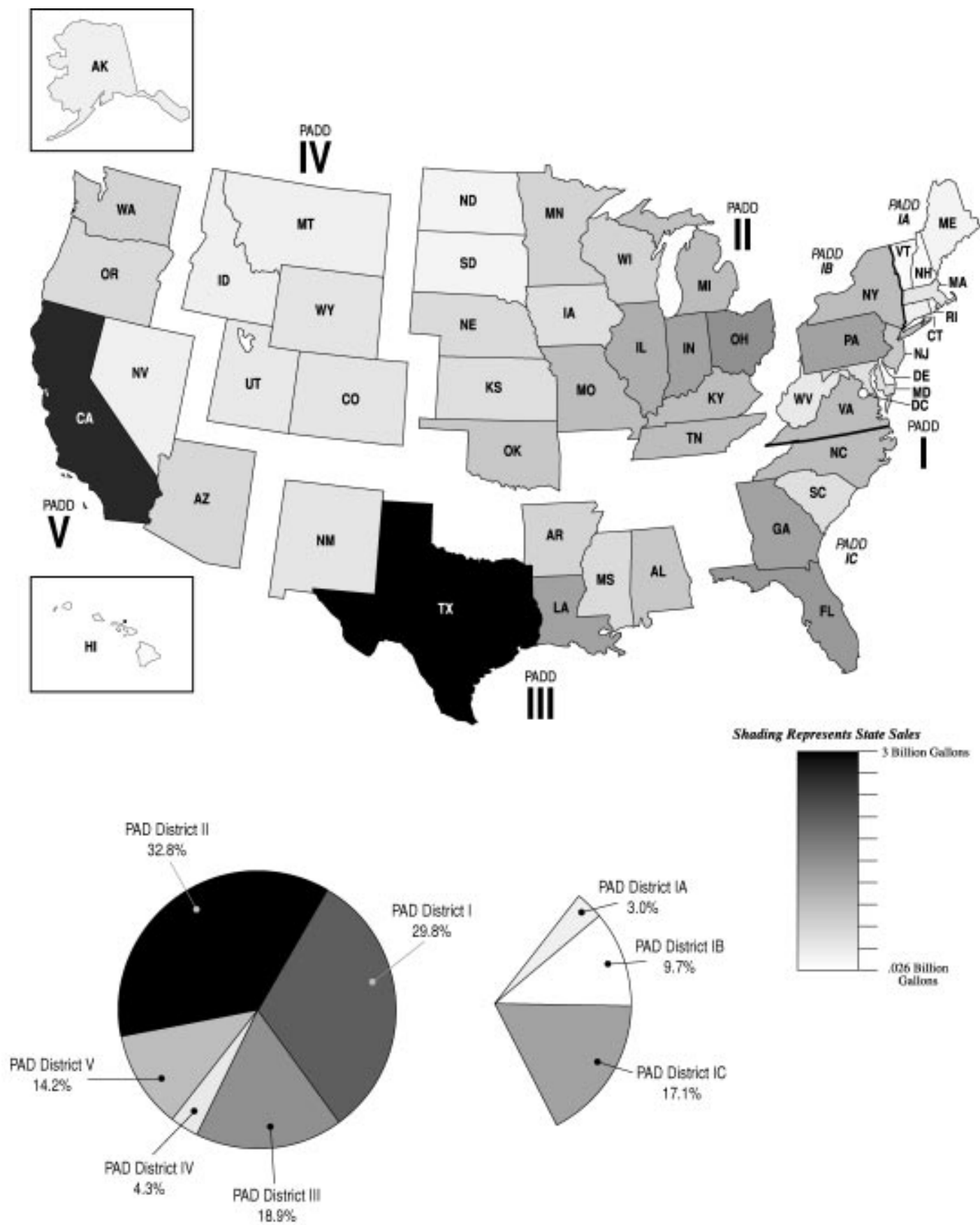
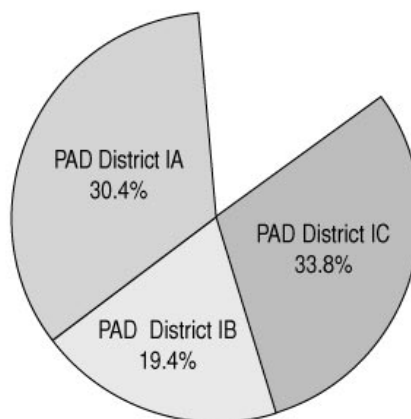
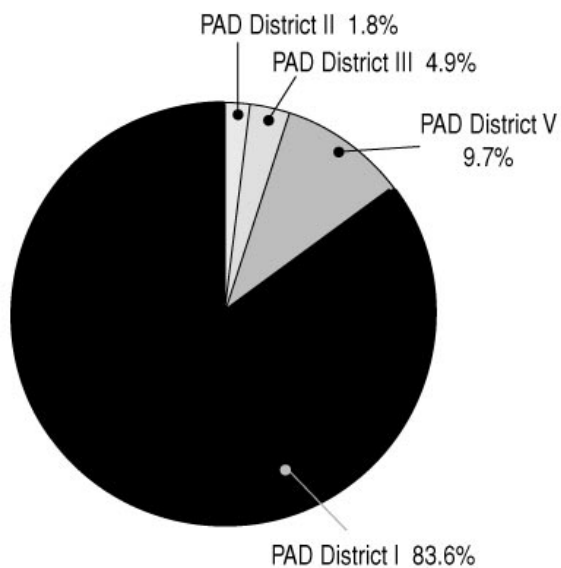
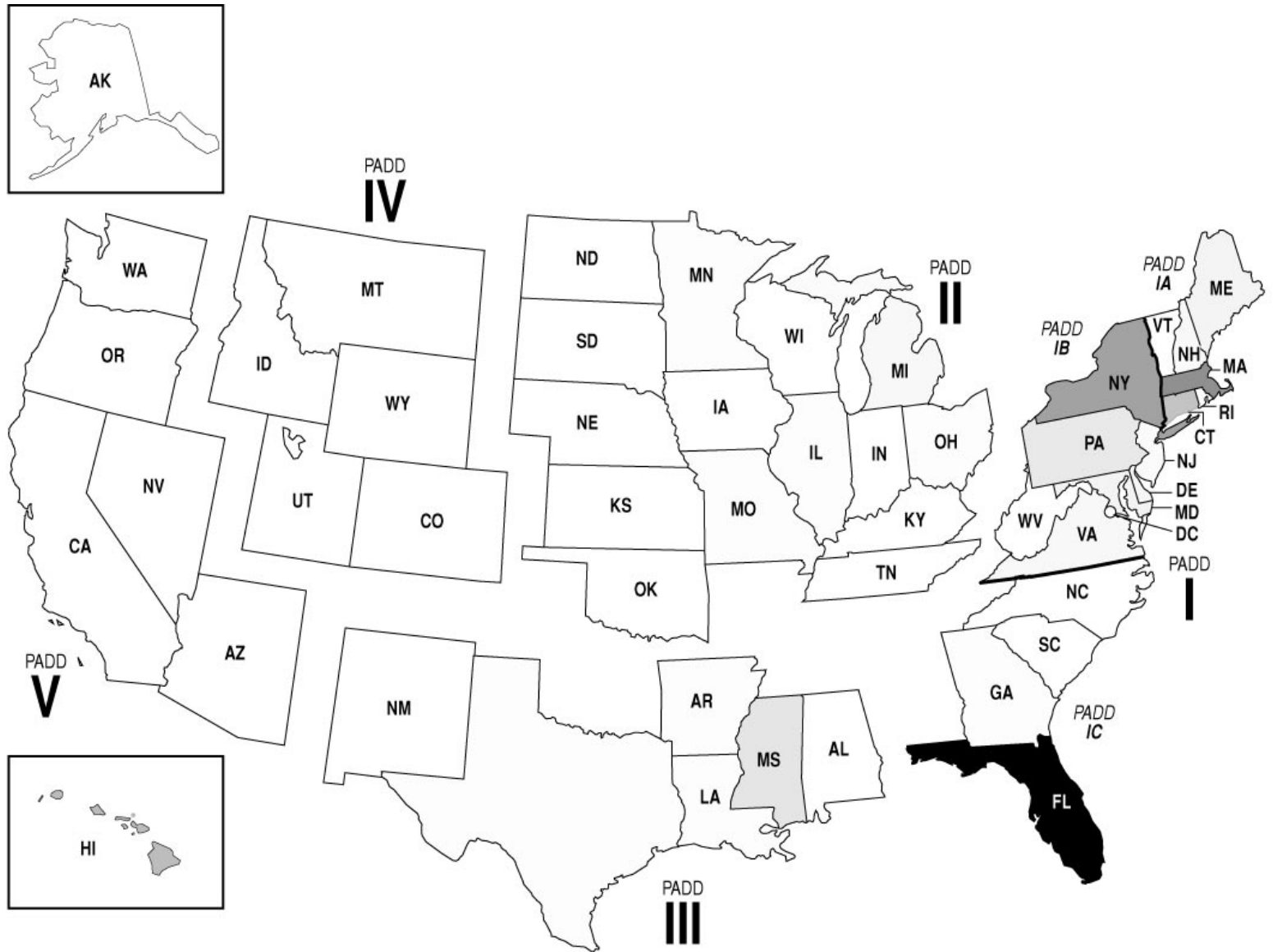
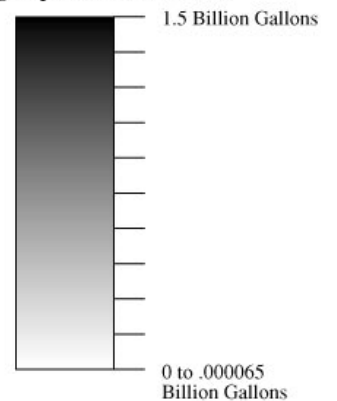


Figure HL4. Residual Fuel Oil Sales for Electric Utility End-Use by PAD District and State, 1997



Shading Represents State Sales



Residual fuel oil sales for some states are too small to appear in this graph.